## IN THE CLAIMS:

Please cancel claims 4, 11, and 21-42, amend claims 1, 2, and 12-16, and add new claims 43-62 as follows:

(Currently Amended) An opto-electronic package, comprising:
 a substrate;

an optically active device flip-chip bonded to the substrate, wherein the optically active device is selected from the group consisting of a vertical cavity surface emitting laser (VCSEL) having a lens directly attached thereto, an array of vertical cavity surface emitting lasers having a microlens array directly attached thereto, a light emitting diode (LED) having a lens directly attached thereto, and an optical modulator having a lens directly attached thereto, and an optical

an integrated circuit bonded to the substrate

- (Currently Amended) The opto-electronic package of claim 1 wherein the optically active device is flip-chip bonded to the the substrate using solder bumps.
- (Original) The opto-electronic package of claim 1 wherein the substrate is selected from the group consisting of a Ball Grid Array substrate, an organic laminate substrate, and a multi-layer ceramic substrate.
- 4. (Canceled)
- 5. (Original) The opto-electronic package of claim 1 wherein the integrated circuit is selected from the group consisting of an optical device driver, a transimpedance amplifier, a microprocessor, a microprocessor chip set, a networking integrated circuit, and a memory.

- 6. (Original) The opto-electronic package of claim 1, further including a printed circuit board (PCB) bonded to the substrate.
- 7. (Original) The opto-electronic package of claim 6, wherein the PCB includes a waveguide to propagate light to or from the optically active device.
- 8. (Original) The opto-electronic package of claim 7, wherein the waveguide includes a holographic element to diffract light to or from the optically active device.
- 9. (Original) The opto-electronic package of claim 7, wherein the waveguide includes a sloped facet to reflect light to or from the optically active device.
- 10. (Original) The opto-electronic package of claim 6, wherein the printed circuit board (PCB) is flip-chip bonded to the substrate using solder reflow technology, where solder reflow surface tension pulls the substrate into alignment with the PCB.
- 11. (Cancelled)
- 12. (Currently Amended) The opto-electronic package of claim 41 13, wherein the substrate is selected from the group consisting of a Ball Grid Array substrate, an organic laminate substrate, and a multi-layer ceramic substrate.
- 13. (Currently Amended) The opto-electronic package of claim 11 An opto-electronic package, comprising:

an integrated circuit is bonded to the substrate; and

## a substrate;

an optically active device with a directly attached optical element flip-chip
bonded to the integrated circuit, wherein the optically active device with [[an]] the
directly attached optical element is selected from the group consisting of a

vertical cavity surface emitting laser (VCSEL) with an attached lens having a lens directly attached thereto, an array of vertical cavity surface emitting lasers with an attached microlens array having a microlens array directly attached thereto, a light emitting diode (LED) with an attached lens having a lens directly attached thereto, a photodetector with an attached lens having a lens directly attached thereto, and an optical modulator with an attached lens having a lens directly attached attached thereto.

- 14. (Currently Amended) The opto-electronic package of claim 11 13, wherein the optically active device with [[an]] the directly attached optical element is flip-chip bonded to the integrated circuit using solder bumps.
- 15. (Currently Amended) The opto-electronic package of claim 44 13, wherein the integrated circuit is selected from the group consisting of an optical device driver, a transimpedance amplifier, a microprocessor, a microprocessor chip set, a networking integrated circuit, and a memory.
- 16. (Currently Amended) The opto-electronic package of claim 44 13, further including a printed circuit board (PCB) bonded to the substrate.
- 17. (Original) The opto-electronic package of claim 16, wherein the PCB includes a waveguide to propagate light to or from the optically active device.
- 18. (Original) The opto-electronic package of claim 17, wherein the waveguide includes a holographic element to diffract light to or from the optically active device.
- 19. (Original) The opto-electronic package of claim 17, wherein the waveguide includes a sloped facet to reflect light to or from the optically active device.

20. (Original) The opto-electronic package of claim 16, wherein the printed circuit board (PCB) is flip-chip bonded to the substrate using solder reflow technology, where solder reflow surface tension pulls the substrate into alignment with the PCB.

## 21-42 (Cancelled)

43. (New) An opto-electronic package, comprising:

a substrate;

an optically active device with a directly attached optical element flip-chip bonded to the substrate; and

an integrated circuit bonded to the substrate.

- 44. (New) The opto-electronic package of claim 43, wherein the optically active device is flip-chip bonded to the substrate using solder bumps.
- 45. (New) The opto-electronic package of claim 43, wherein the substrate is selected from the group consisting of a Ball Grid Array substrate, an organic laminate substrate, and a multi-layer ceramic substrate.
- 46. (New) The opto-electronic package of claim 43, wherein the optically active device with the directly attached optical element is selected from the group consisting of a vertical cavity surface emitting laser (VCSEL) having a lens directly attached thereto, an array of vertical cavity surface emitting lasers having a microlens array directly attached thereto, a light emitting diode (LED) having a lens directly attached thereto, a photodetector having a lens directly attached thereto.
- 47. (Original) The opto-electronic package of claim 43, wherein the integrated circuit is selected from the group consisting of an optical device driver, a

- transimpedance amplifier, a microprocessor, a microprocessor chip set, a networking integrated circuit, and a memory.
- 48. (New) The opto-electronic package of claim 43, further including a printed circuit board (PCB) bonded to the substrate.
- 49. (New) The opto-electronic package of claim 48, wherein the PCB includes a waveguide to propagate light to or from the optically active device.
- 50. (New) The opto-electronic package of claim 49, wherein the waveguide includes a holographic element to diffract light to or from the optically active device.
- 51. (New) The opto-electronic package of claim 49, wherein the waveguide includes a sloped facet to reflect light to or from the optically active device.
- 52. (New) The opto-electronic package of claim 48, wherein the printed circuit board (PCB) is flip-chip bonded to the substrate using solder reflow technology, where solder reflow surface tension pulls the substrate into alignment with the PCB.
- 53. (New) An opto-electronic package, comprising:

a substrate;

an integrated circuit is bonded to the substrate; and
an optically active device with a directly attached optical element flip-chip
bonded to the integrated circuit.

54. (New) The opto-electronic package of claim 53, wherein the optically active device with the directly attached optical element is selected from the group consisting of a vertical cavity surface emitting laser (VCSEL) having a lens directly attached thereto, an array of vertical cavity surface emitting lasers having a microlens array directly attached thereto, a light emitting diode (LED) having a lens directly attached thereto, a photodetector having a lens directly attached thereto, and an optical modulator having a

lens directly attached thereto.

- 55. (New) The opto-electronic package of claim 53, wherein the substrate is selected from the group consisting of a Ball Grid Array substrate, an organic laminate substrate, and a multi-layer ceramic substrate.
- 56. (New) The opto-electronic package of claim 53, wherein the optically active device with the directly attached optical element is flip-chip bonded to the integrated circuit using solder bumps.
- 57. (New) The opto-electronic package of claim 53, wherein the integrated circuit is selected from the group consisting of an optical device driver, a transimpedance amplifier, a microprocessor, a microprocessor chip set, a networking integrated circuit, and a memory.
- 58. (New) The opto-electronic package of claim 53, further including a printed circuit board (PCB) bonded to the substrate.
- 59. (New) The opto-electronic package of claim 58, wherein the PCB includes a waveguide to propagate light to or from the optically active device.
- 60. (New) The opto-electronic package of claim 59, wherein the waveguide includes a holographic element to diffract light to or from the optically active device.
- 61. (New) The opto-electronic package of claim 59, wherein the waveguide includes a sloped facet to reflect light to or from the optically active device.
- 62. (New) The opto-electronic package of claim 58, wherein the printed circuit board (PCB) is flip-chip bonded to the substrate using solder reflow technology, where solder reflow surface tension pulls the substrate into alignment with the PCB.